SUMMARY

Consideration of an Amendment to the Basin Plan Revising the Existing Instream Water Quality Objectives for Water Temperature and Dissolved Oxygen Concentrations in the North Coast Region

The North Coast Regional Water Quality Control Board (Regional Board) is proposing amendments to the water quality standards for the Russian River Basin contained in the *Water Quality Control Plan for the North Coast Region* (Basin Plan). The Basin Plan standards consist of water quality objectives, the Antidegradation Policy, and beneficial use designations for streams within the North Coast Region. The proposed amendments revise the existing objectives for temperature and dissolved oxygen to be protective of anadromous salmonids in the North Coast Region. The current objectives do not take into account recent research and field studies and do not provide the specificity needed for effective implementation. Staff addressed these issues by basing the proposed objectives on the biological requirements of each life stage of the different species of anadromous salmonids in the North Coast Region.

The proposed amendments are the result of a contract between the Sonoma County Water Agency and the Regional Board, adopted as Resolution 97-96 in August 1997. In that document, the Regional Board resolved to review the Russian River Basin standards for compliance with the federal Endangered Species Act (ESA). If the standards were not in compliance, the Resolution directs the Board to amend the standards. In a report dated August 2000, the Regional Water Board evaluated the Basin Plan to determine the level of protection water quality objectives provided for steelhead trout, coho and Chinook salmon in the Russian River Basin. These species are listed as "threatened" under the federal ESA or "endangered" under the California Endangered Species Act (CESA) in the Russian River Basin (Listed Species).

In the August 2000 report, Regional Board staff found that the dissolved oxygen and water temperature objectives did not afford adequate protection for the Listed Species in the Russian River Basin. In order to address this, the report recommended developing numeric objectives specific to each salmonid life stage. The US Environmental Protection Agency also found the current water temperature objectives in the Basin Plan were too general to be protective of the Listed Species, and informed the State Water Resources Control Board of this issue in August of 2000. In addition, the literature review conducted by staff indicates a need to update the objectives for dissolved oxygen in the Russian River Basin to be protective of all life stages of the Listed Species. The proposed amendments respond to these recommendations by setting numeric dissolved oxygen and water temperature objectives that support the life stages of the Listed Species in compliance with the federal ESA and CESA.

Regional Board staff conducted a literature review to determine the biological requirements of the salmonid life stages. In the review, staff used the following resources to provide the basis of the proposed standards: The US EPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards, the

Washington State Department of Ecology water temperature and dissolved oxygen standards, the Oregon State Department of Environmental Quality standards, laboratory studies, and field studies. During the literature review, staff found that the biological requirements for the Russian River Basin species of salmonids were representative of the species throughout the North Coast Region. As a result, the Regional Board staff decided to expand the scope of the amendment to be a Basin Plan Amendment updating the standards for water temperature and dissolved oxygen to be protective of anadromous salmonids in the North Coast Region. The numeric temperature objectives will work in conjunction with the current narrative temperature objectives while the numeric dissolved oxygen objectives will replace the current numeric objectives contained in the Basin Plan.

Along with fulfilling the SCWA contract, which centers on the federal ESA/CESA, the proposed amendments to the Basin Plan satisfy the requirements of the state Porter Cologne Water Quality Control Act (Porter Cologne). Staff incorporated the requirements of both acts by proposing objectives protective of high quality salmonid habitat. A viable population of salmonids, a concept central to ESA listing and delisting, is dependent on high quality instream habitat. The protection of high quality instream habitat also protects the salmonid related beneficial uses in the North Coast Region, a requirement of the Basin Plan as intended in Porter Cologne.

The proposed objectives apply when and where the given species and life stage exist and when and where the species and life stage existed historically and have the potential to exist again. Activities that result in an increase to water temperature or a decrease in dissolved oxygen levels must comply with the State and Federal Antidegradation Policies. For the proposed water temperature objectives, there is a numeric objective corresponding to the following life stages: adult migration, spawning, incubation and emergence, juvenile rearing and smoltification. There is also an instantaneous maximum objective. The dissolved oxygen objectives consist of a water column objective and an intergravel objective. The intergravel objective applies only during the incubation and emergence life stage. The water column objective is higher during this life stage to account for the loss of dissolved oxygen between the water column and the gravels.

How the Proposed Objectives Function within the Basin Planning Framework

These objectives will be used to evaluate compliance with a separate over-arching narrative objective protecting cold water habitat that is currently being developed by staff as an amendment to the Basin Plan. The narrative objective is not a part of the proposed amendment for water temperature and dissolved oxygen; it is a separate Basin Plan amendment. The proposed narrative water quality objective for the protection of habitat conditions related to salmonids in waters designated COLD is as follows:

Waters designated COLD, which support anadromous salmonids, must maintain habitat conditions which are fully supportive of all life stages of cold water fish including salmonids. Such habitat conditions include, but are not limited to, adequate flows; water quality; streambed/bank; and riparian conditions.

To evaluate compliance with this narrative water quality objective, the Regional Water Board will consider, on a case-by-case basis, direct evidence of impacts to beneficial uses related to cold freshwater fisheries (i.e., COLD, COMM, MIGR, RARE, SPWN, CUL, EST); comparison with natural habitat conditions; objectives, targets (goals), or policies established by the Regional Water Board for protection of cold water fish' and relevant criteria, targets, and guidelines developed and/or published by other agencies and organizations (e.g., U.S. Fish and Wildlife Service, NOAA Fisheries, State Water Resources Control Board, U.S. EPA, National Academy of Science, the University of California, etc.).

Implementation

The actions necessary to achieve the new objectives are discussed in the Implementation Plan section of this document. The Implementation Plan accompanies the proposed standards and is required by the Porter-Cologne Water Quality Control Act. In the Porter-Cologne, the basic elements of an implementation plan are described as: (1) actions that will achieve the objectives, (2) a time schedule for achieving them, and (3) a description of monitoring for progress towards that end.

The actions in the implementation plan include both regulatory function and land management policies that address the impacts of development. Because of the diversity of impacts in the Region, many will need to be addressed on a site-specific basis using the implementation plan as a guide. To this end, the Implementation Plan outlines principles relevant to achieving the proposed objectives to be used in site-specific restoration and regulatory efforts. The attainment of the objectives will involve a concerted effort involving coordination of all stakeholders.

The Basin Plan amendment includes:

- Dissolved oxygen and water temperature objectives based on the biological requirements at various life stages of each salmonid species in the North Coast Region
- Prohibitions related to the protection of existing high quality salmonid habitat
- An exception to the water temperature objectives to accommodate unusually warm air temperatures
- A provision that allows the water quality objectives to be updated in the future based on studies examining the potential of a given site to attain the objectives
- An implementation plan that outlines regulatory mechanisms for achieving compliance with the proposed objectives

Contact Information

Staff is currently in the process of developing the amendment to the water temperature and dissolved oxygen water quality standards. A public review draft is scheduled to be released in June 2005. For more complete information, please contact Mr. Ben Zabinsky, of the Regional Water Board, at 707-576-6750 or at zabib@rb1.swrcb.ca.gov.